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Dear Executive:

Risks and oportunities are great in the satellite communications industry, according to a just released report from Satellite Systems Engineering Inc.

The "Transponder Supply & Demand Forecast" sees a looming critical crossroads for the industry: by the end of 1993, nearly 70% of the 402 existing C-band transponders are going to be out of service. At the same time, 30% of all 122 existing Ku-band transponders will also be out of service. Further, by the end of 1996, every C- and Ku-band transponder now operating will be out of service.

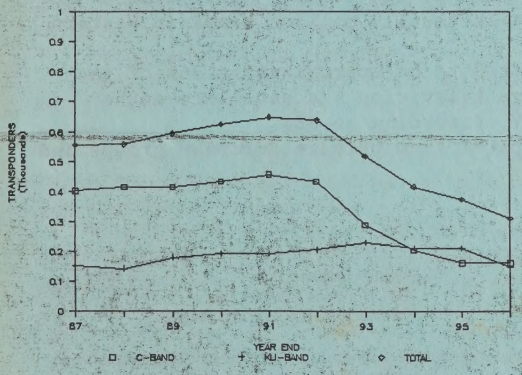
These dire predictions are contingent on a 3-year replacement timeframe plus decisions on new construction by the end of 1989. With the slow recovery from the Challenger disaster and subsequent launch failures, the launch industry will be hard pressed to put up replacements in the near future.

Further complications for recovery are the insurance crisis, which "appears to be threatening in far deeper ways than the mere quintupling of rates since 1980," and the impact of competition from fiber optics.

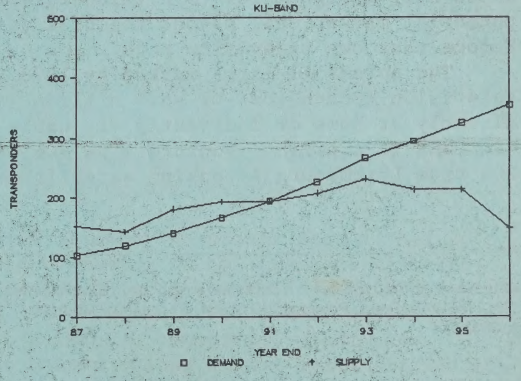
However, although resupply will be expensive--a new system of 2 satellites with a ground spare costs more than $300 million--opportunities are numerous, according to the report. Demand for transponders continues to grow. Demand projections show in 1996 a need for 710 transponders--356 at C-band and 354 at Ku-band.

This should translate into 41 payloads and 50 launch attempts between 1987 and the end of 1996. This is a promising opportunity of $5.2 billion for construction and launch for the U.S. domestic market: $2.5 billion for the development and construction of spacecraft and $2.7 billion in launch services.

TRANSPONDER SUPPLY: 1987 PERSPECTIVE



DEMAND VS. CURRENTLY COMMITTED SUPPLY



(Source: Satellite Systems Engineering Inc.)

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International

LUXEMBOURG DBS ASSIGNED FREQUENCY AND ORBITAL POSITION

The Luxembourg DBS satellite Astra just received the first International Frequency Registration Board assignment for a European private communications satellite. The Societe Europeenne des Satellites (SES) was given an orbital allotment to place the Astra DBS satellite at 19.2°E using frequencies at 11.2-11.45 GHz and 14.25-14.5 GHz for downlinks and uplinks, respectively. The IFRB decision was announced by Luxembourg Prime Minister Jacques Santer at the Parliament of the Grand Duchy, reports SATELLITE NEWS European correspondent Pierre Langereux.

The frequency allocation was requested in September 1983 for a launch now set for September 1988, rather than early 1988, due to the Ariane's scheduling delay. The assignment ends speculation on a possible coordination between Astra and other European communications satellites, especially the controversial coordination with Eutelsat.

Work is progressing on construction of the satellite at the RCA manufacturing plant in New Jersey. The satellite is scheduled to leave the factory for the Guiana launch site in February 1988.

British Telecom and SES recently reached a joint marketing agreement making about half of the 16 transponders available to British programmers. BT will add a new earth station at its London Teleport to transmit television programs from the United Kingdom to Astra, making BT the primary carrier for Astra.

SES denies that this will make Astra a British-dominated program. There are enough transponders left for 6-8 French and German programmers, according to an Astra spokesman. SES emphasized that only a package of attractive programs with appeal for all of Europe will achieve market penetration beyond national borders.

"An ideal lineup should include programs that will appeal mainly to the 3 major markets of the British, French and German languages, plus Scandinavia and Benelux," the spokesman said.

...ASTRA SEES MORE THAN 40 MILLION VIEWERS BY 1996

Unlike television signals from traditional low-power satellites, which are restricted to the 12 million homes connected to cable networks in Europe, Astra is especially designed for television reception on small ground dishes. This expands the potential market well beyond the 6.3% using cable in the 119 million homes in Western Europe that own television sets.

The potential Astra market by 1996 is projected to be approximately 36% of the television households--or 45.9 million--to receive television via satellite either directly at home or indirectly via cable or SMATV, according to SES.

SES is a private venture with 80% of the capital from private European groups and 20% from Luxembourg's banking establishments.

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HUGHES AIRCRAFT WINS BRITISH DBS SATELLITE CONTRACT

British Satellite Broadcasting, the consortium in charge of setting up the United Kingdom DBS project, recently announced its intention to award the contract for its 2 DBS satellites to Hughes Aircraft Co. Hughes won the contract--worth about $300 million-- by beating out Comsat and British Aerospace. This is a severe setback for British Aerospace, the U.K. company that has had an arrangement for several years with the British government to build the U.K. DBS satellite.

Technical evaluation by consultant Telesat Canada recommended Hughes based on technical, cost and time factors. While Comsat was a serious challenger, it was considered technically inferior because its satellites would not be able to operate at maximum power during a solar eclipse. British Aerospace apparently was eliminated because it required that the satellite be launched as early as the summer of 1989.

The DBS contract should be signed by the end of the month covering the construction and launch of 2 DBS satellites beaming 3-4 channels each by late 1989 over the United Kingdom and Western Europe.

It appears this could also be a blow for the European Ariane launcher because it seems likely that both spacecraft would be launched on a U.S. rocket instead of the Ariane. The launcher for the DBS satellites is likely to be either the Delta 2 or the Titan 3 rockets.

OLYMPUS 1 FLOWN TO U.S. FOR SOLAR TESTS

British Aerospace has successfully completed the construction of the Olympus 1. The spacecraft was subsequently sent on a specially chartered Belfast transport aircraft to Pasadena, Calif., where it will start its solar simulation tests at NASA's Jet Propulsion Laboratory.

After the completion of the tests, it will undergo further tests at the David Florida Labs in Canada for environmental trials. The powerful, 3-axis stabilized satellite will be ready for launch on the Ariane in January 1989 (SN, May 25, pp. 4-5).

WESTERN EUROPE RECOMMENDS BOYCOTT OF SOVIET LAUNCHERS, PROMOTION OF EUROPEAN BIRDS

The Western European Union assembly last week recommended a boycott of Soviet launchers. At the same time, it called for a study on the impact of building a series of European military satellites.

Recommendations included:

- Support the European Space Agency in making Europe independent in space before the end of the century with a possible doubling of the present space budget in the next decade.
- Encourage a liaison between ESA and the space agencies in each country of the agency to ensure coordination of civil and military programs, especially to avoid duplication of resources.
- Facilitate operations of the European Ariane launcher to ensure that it has at least half of the market for commercial launches by coming to an agreement with the United States on the financial support of commercial launches by each government.
- Avoid having western satellites placed in orbit by Soviet launchers without reciprocity and avoid having a cost that does not respect commercial principles.
- Endeavor to conclude an agreement with the United States on the space station to consolidate cooperation.
- Examine the repercussions of establishing a European military program for communications, navigation, observation and reconnaissance satellites.
- Strengthen European space cooperation and encourage space dialogue with the United States.

EOSAT NEGOTIATES LANDSAT DATA DISTRIBUTION AGREEMENT WITH PRC

The Earth Observation Satellite Co. (Eosat) last week announced an agreement with the People's Republic of China to be the official representative for Landsat data from

the Peking Landsat station. This will make the data from China available on a commercial basis for the first time.

Eosat, which operates the U.S. Landsat remote sensing satellite system, will market the new data on behalf of the PRC.

Eosat will deliver data from the Peking station in computer-compatible tape format. Film products will be available in the near future. It will take about 3-4 weeks to deliver the data.

Exploration geologists have recently begun to focus attention on the relatively untapped mineral and petroleum resources presumed to lie under much of the PRC. Data from the Peking station is presumed to be of interest to resource managers and agronomists around the world.

Landsat satellite data is provided to Peking and 13 other international receiving stations through an agreement with the U.S. government and Eosat.

Programming

ESPN ANNOUNCES TVRO DISTRIBUTION PLANS; SHOWTIME/THE MOVIE CHANNEL ADDS PAY-PER-VIEW

ESPN, which plans to commence full-time scrambling on June 22, announced last week that its programming signal will be available to home dish owners from the network's cable affiliates and the distribution service of Showtime/The Movie Channel.

To purchase ESPN, home dish owners may call the cable system that serves their area or Showtime at 800/422-9000. ESPN will be offered on an a la carte basis as well as a packaged basis. The network has suggested a retail price for ESPN a la carte of $25 a year. However, ESPN Vice President Roger Williams said that the actual retail price would be determined by programming distributors and not by the network.

In other news, Showtime/The Movie Channel recently began offering, through its Viacom Satellite Networks subsidiary, pay-per-view movie selections to home TVRO owners equipped with VideoCipher descramblers.

LUXOR CITES SCRAMBLING IN DECISION TO EXIT NORTH AMERICAN MARKET

Luxor, the Scandinavian satellite and communications equipment manufacturer, cited disruption of the U.S. home backyard satellite dish market following the start of scrambling last year in its recent decision to quit the market. The company said it will focus on the growing market for DBS and home satellite equipment in Europe.

Space Station

DEFENSE MAY HAVE A SPACE STATION AT A DISCOUNT

The great debate regarding future military activity aboard the U.S. space station continues to pass through the inboxes and outboxes at NASA and the Defense Department. Fueling the debate was the surprise statement by Dale Myers, deputy administrator of NASA, during a recent speech that Defense "may very well want to begin thinking seriously about a dedicated space station of its own, possibly in polar orbit," reports special correspondent Leonard David.

"A serious, sustained, long-term look at [the Defense Department's] future manned requirements in space" will prod Defense eventually to obtain its own facility, he said.

The NASA official sees Defense requirements as experimentation for the Strategic Defense Initiative; replacement, maintenance and updating of military spacecraft in orbit; and the increasing general military importance of space.

In addition, Myers underscored the military focus of the Soviet space station program. An essential cost-saving element is that contractors would be able to use their experience from developing the present station to produce a second at a very attractive discount.

Launchers

SUCCESSFUL LAUNCH OF NEW SOVIET BOOSTER GIVES RUSSIANS 100-TON PAYLOAD CAPACITY

The successful launch of a new Soviet booster dubbed the "Energia" in mid-May gives the country's space program a potential 100-ton maximum payload capacity to low-earth orbit. Impressive compared to the U.S. space shuttle's ability to orbit about 65,000 pounds, the Energia falls short of the nearly 130-ton limit achieved by the United States with its Saturn 5 launcher in the mid-1960s. The Saturn 5 was used during the Apollo project to put a man on the moon. Production of the booster ceased in the early 1970s.

The flight was the first large-scale, publicly acknowledged Soviet demonstration of the use of liquid hydrogen and liquid oxygen as fuel, a major technological breakthrough in engine efficiency. The Proton rocket, workhorse of the Soviet launch fleet, uses a liquid oxygen/kerosene mixture.

The Energia is a 2-stage, 197-foot hybrid with 4 strap-on engines, as well as 4 main thrusters within the rocket's core section. Total weight of the vehicle exceeds 2.2 million tons. The May 15 lift-off was televised within the Soviet Union.

...MOCK 100-TON PAYLOAD FAILS, FALLS INTO PACIFIC

The Soviet launch, demonstrating a capability the United States has not had for more than a decade, was a mixture of success and failure. The Energia's first-stage and second-stage engines performed as anticipated.

However, according to the Soviet news agency Tass, the "onboard systems" controlling a mock 100-ton cargo module failed shortly after separation, causing the module to fall into the Pacific Ocean before attaining low-earth orbit.

Applications for a Soviet heavy-lift vehicle include launching the evolving Soviet space shuttle as well as larger space stations, large astrophysical observatories and solar power relay satellites. A number of military applications also could be helped, including the construction of large space platforms for weapons or surveillance.

Business Developments

TEST OF AERONAUTICAL SATELLITE SYSTEM PLANNED BY BRITISH AVIATION AUTHORITY AND AIRLINES

The British Civil Aviation Authority, 4 national airlines and the Societe Internationale Telecommunications Aeronautique (SITA), an international communications group owned by a number of airlines, announced plans to conduct low-speed data relay tests using the European Space Agency's ProDat, later this year. The announcement was made in London during the Inmarsat aeronautical mobile satellite system meeting held last month.

Although the proposed system would be unable to transmit voice communications, it could be used to relay flight safety, air traffic control and other information, such as location, direction, speed and various other operational parameters.

The participating airlines--Air France, Sabena Belgium Airlines, Varig or Brazil and TAP Air Portugal--will install ProDat terminals in one aircraft each. The British CAA plans to make tests using 2 aircraft. Capacity on an Inmarsat Atlantic Ocean Region satellite will provide services to demonstrate the concept and test equipment.

Representatives from Japan Air Lines also announced plans to test a limited aeronautical satellite system which would connect aircraft directly to an earth station without interfacing with terrestrial public networks.

SITA has said in the past it will work with any group that wants to get aeronautical satellite services going, Comsat World Systems President Bruce Crockett told reporters recently (SN, June 1, pp. 1-2).

Crockett predicted that such services would be available within a few years, adding that the first production aircraft with built-in satellite communications capabilities could be expected by 1989. The Boeing 747-400 series is the "prime candidate" for aeronautical equipment, he said.

Satellite Circuit

● Comsat Corp.'s Intelsat Satellite Services (ISS) unit recently filed with the FCC for major rate reductions in nearly all its services, including voice, International Business Satellite Service (IBSS), time division access/digital speech interpolation and full-time video. The tariffs, which reduce rates by an average of approximately 13%, are in addition to several rate reductions effected earlier this year. They expand long-term discounts to all regions of the world and include a new 9-year long-term rate that will provide up to a 30% discount on voice-grade traffic. The company said the reductions are part of a continuing effort to move toward market-based, competitive pricing and to move its customers from 30-day commitments to satellite services to long-term commitments. (Comsat Corp., 950 L'Enfant Plaza SW, Washington, DC 20024, 202/863-6800.)

● The Sisters of Charity Hospital chain, a health-care corporation headquartered in Houston, Texas, recently used the Houston International Teleport to broadcast a system-wide videoconference to key staff and physicians at their 17 hospitals located from Louisiana to California. The encrypted broadcast signal was uplinked from HIT to the Spacenet 1 satellite, then down to the Sisters of Charity's 17 receive sites, all of which are equipped with Oak Orion scrambling standard. (Houston International Teleport, 3003 Moffett Lane, Houston, TX 77489, 713/438-9407.)

● John Lappington has been appointed to the newly created position of president of the Satellite Communications Division at Scientific-Atlanta Inc. Lappington, who joined S-A in 1981, previously was general manager of the division. In other news from Scientific-Atlanta, the company announced that it has been chosen by Viacom Networks Group to provide project management and supply earth stations for the Galaxy 3 project. S-A will provide both 3.2- and 2.8-meter C-band antenna systems to affiliates of Viacom's various programming services.

● Overseas Telecommunications Inc. has completed the installation and testing of a new Intelsat standard E-2 earth station in Detroit. The Ku-band facility will operate with an Atlantic Ocean Region Intelsat satellite connecting Western Europe with the United States. The company also plans to install 3 additional earth stations this year--in Chicago, Minneapolis and Phoenix, Ariz.

● Saturn Satellite Inc. recently initiated a new service called Satex. Company President Jon Schwenzer told SATELLITE NEWS that Satex "is a satellite notification service that tells assignment editors and others information about daily satellite feeds." Schwenzer said the system combines the use of telex, on-screen graphics and the Multicomm Infowire printer to reach television stations. Satex supports the company's daily 3 p.m. ET "Station Connection" broadcast over Telstar 301, transponder 12V, designed to shuttle short video features. (Saturn Satellite Inc., 3125 Quebec Place NW, Washington, DC 20008, 202/362-4334.)

Innovations

COMPETING PRESIDENTIAL CANDIDATES RENT KU-BAND PORTABLES FOR LIVE CAMPAIGN DEBATE

For the first time, opposing presidential candidates rented on May 29 their own Ku-band transportable satellite uplink to beam a one-on-one debate directly to local television stations, pitting candidate Bruce Babbitt, the former Democratic governor of Arizona against Republican Pete Du Pont, the former governor of Delaware, in Des Moines, Iowa.

The 2 candidates rented a Ku-band transportable news vehicle and production crew from Conus Satellite Services to transmit the hour-long debate live to more than 700 television stations across the nation. After the debate, local television news anchors used the Conus system to interview the candidates.

To telecast the debate live, Conus Satellite Services used the RCA Satcom K2 satellite. A Conus spokesman said the cost of the broadcast was between $5,000-10,000. Conus Satellite Services also was used by Rep. Richard Gephardt (D-Mo.) for his presidential campaign, on April 24, from Marshaltown, Iowa.

'WE NEED A GREAT NEW AMERICAN ENTERPRISE IN SPACE'

Pointing out that other countries--and particularly the Soviet Union--are undertaking ambitious space programs, Martin Marietta Corp. Chairman Thomas Pownall warned that the United States is not being aggressive enough in pursuing a substantive, long-term space agenda.

"The time is now for this nation to come to grips with these important goals, chart a course and move ahead with a long-term program that is not inordinately subject to stops, starts, speed-ups, slowdowns, endless justifications, modifications or downright cessations as the last-in, first-out of the budgetary process," he charged. His remarks were delivered by Martin Marietta's Executive Vice President Kaleb Jurtt.

Pownall's remarks cited alarming statistics at the monthly luncheon of the Washington Space Business Roundtable--NASA's present budget of $10 billion is less than 1% of the overall federal budget, contrasting with close to 4% in the mid-60s.

He called space a major driver of technologies and enthusiastically promoted a space station. For an estimated 2 cents a day from each American, the United States can build and maintain the space station, he said.

He particularly drove the point that the United States is in a new space race, not only with the Soviet Union's "prodigious space activities" but also with France, China, Japan, India, Italy, Australia and the United Kingdom. All of these countries appear to be gaining on the United States across a range of space technologies and capabilities.

"More than 2 dozen countries now possess spacecraft and 6 have launch capabilities," he noted. Next year the Soviet Union embarks on the first of a series of 4 missions to Mars, leaving the United States far behind in its wake, Pownall noted.

MARKEY SETS JUNE 24 HEARING ON FAILED MERGER OF COMSAT AND CONTEL; RUMORS ABOUND

While rumors abound about despair within the executive suites at Comsat over the failed merger with Contel (SN, April 13, p. 9; April 20, pp. 1-3; May 4; pp. 1-2), the House Telecommunications Subcommittee, chaired by Rep. Edward Markey (D-Mass.), announced plans to hold hearings to examine the marriage, as well as other international communications issues.

At Comsat, an inside source told SATELLITE NEWS, there is concern about regaining momentum that was lost as the rank-and-file waited to see what changes the merger would bring. Changes that were made, such as the move by Comsat Technology Products President Bill Perigard to Contel ASC, and others in the final planning stages are being examined with a view toward getting back to business, our source said.

Gerry Salemme, senior telecommunications policy analyst for the subcommittee, told us that the hearing, set for June 24, will cover the failed merger and international trade and communications issues brought up in previous hearings. Salemme said the witness list for the hearing has not been finalized but would include heads of key federal agencies.

Regarding the merger, Salemme said the subcommittee would examine "what Comsat without Contel will be like." He added that the merger, which Markey had questioned from the start (SN, April 27, p. 7), is dead in the water: "Everyone would agree that it's not going to come to fruition."

Also on the hearing agenda, Salemme told us, is an examination of "the treatment of international separate satellite systems authorizations."

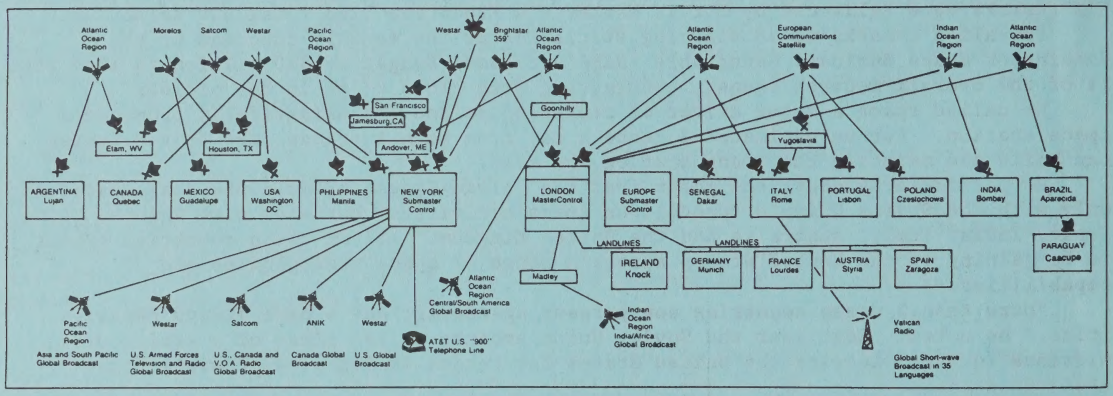
Videoconferencing

SATELLITES BROADCAST TO FIVE CONTINENTS DURING POPE'S GLOBAL PRAYER FOR WORLD PEACE

Pope John Paul II on Saturday was scheduled to join an estimated audience of more than 1.5 billion viewers on 5 continents via a multi-satellite "Prayer for World Peace" global broadcast using as many as 2 dozen satellites. Plans called for the pope, in Rome, to be joined via satellite by Mother Teresa, who was in his hometown of Czestochowa, Poland, as well as by Catholic congregations from around the world.

In addition to the global audience, an estimated 1.5 million viewers in 17 cities were to be able to respond live over the airwaves as the pope read the rosary in 7 languages. Other broadcast sites included Washington, D.C., Munich, Bombay, and Manila, as well as cities in Argentina, Spain, Senegal, Portugal and France.

Multi-Satellite Hookup Will Link Five Continents for Pope's Peace Message



Satellite arrangements were handled by Visnews and British Telecom International. The entire program was produced and coordinated by Global Media Ltd., the same group that organized "Live Aid" and "Sport Aid." The company called the event, which it said involved more than 18 satellites, 30 transponders, 75 cameras and 1,000 technicians, "the most ambitious and complicated television program of all time."

The event was carried by more than 100 U.S. television stations, including stations in all top 50 markets.

"Prayer for World Peace," a program designed to highlight the pope's plea for a 14-month period of prayer which began on Jan. 1, was broadcast by the Armed Forces Radio and Television Service, Radio Vatican and Voice of America in 35 languages.

Satellites owned or operated by Western Union, RCA American Communications and Brightstar Communications, as well as Mexico's Morelos domestic satellite, the Canadian Anik satellites and Intelsat satellites over the Atlantic, Pacific and Indian Ocean were to be used.

According to producer Tony Verna, who was executive producer of both "Live Aid" and "Sport Aid," the "Prayer for World Peace" broadcast grew out of his desire to combine satellite and other communications technologies with religion.

Sincerely,

The Editors

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